

Cybernetics in cosmic space

P/005/62/000/035/001/001  
1004/1204

space flight employed methods of mathematical statistics in order to distinguish between lawful effects and casual ones. He suggested that active cooperation of cosmic vehicles may lead to the assembling in outer space of astronomical observatories acting automatically and to the launching of cosmic vehicles. He predicted that a group of cosmic vehicles launched simultaneously may form an expedition for exploring outer space. ✓

Card 2/2

BUCHAR, E.

SCIENCE

Periodical: GEODEZJA I KARTOGRAFIA. Vol. 7, no. 1, 1958.

BUCHAR, E. The problem of the invariability of the zenithal distance  
in the method of equal altitudes. p. 3.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 3, May 1959  
Unclass.

HUNGARY/Inorganic Chemistry. Complex Compounds.

C

Abs Jour: Ref Zhur-Khin., No 24, 1958, 80983.

Author : Duchar E., Suchy K.

Inst :

Title : Chromatography of Certain Isomeric Complex Compounds.

Orig Pub: Magyar kem. folyoirat, 1958, 64, No 2, 45-46.

Abstract: Chromatographic separation of certain isomeric complexes, such as geometrical isomers (pink and violet color) of cobalt triglycine, was investigated. It was found that the above compounds have different  $R_f$ . From the Cr complexes, dioxalate-dihydrochromiates (cis-series) were isolated. The violet analogue occupied greater space on chromatograms. The green dioxalatehydroxihydro-

Card : 1/2

BUCHAR, Evzen

Chemie pro desaty postupny rocnik. (Chemistry for the Tenth Grade. 4th ed. illus., indexes) Authors: Evzen Buchar, Frantisek Sorm. Josef Trtilek, ed. Prague, SPN, 1957. 155 p.

Bibliograficky katalog, CSR, Ceske knihy, No.36. 15 Oct 57. p. 778.

BUCHAR, J.; FRCHLIK, J.

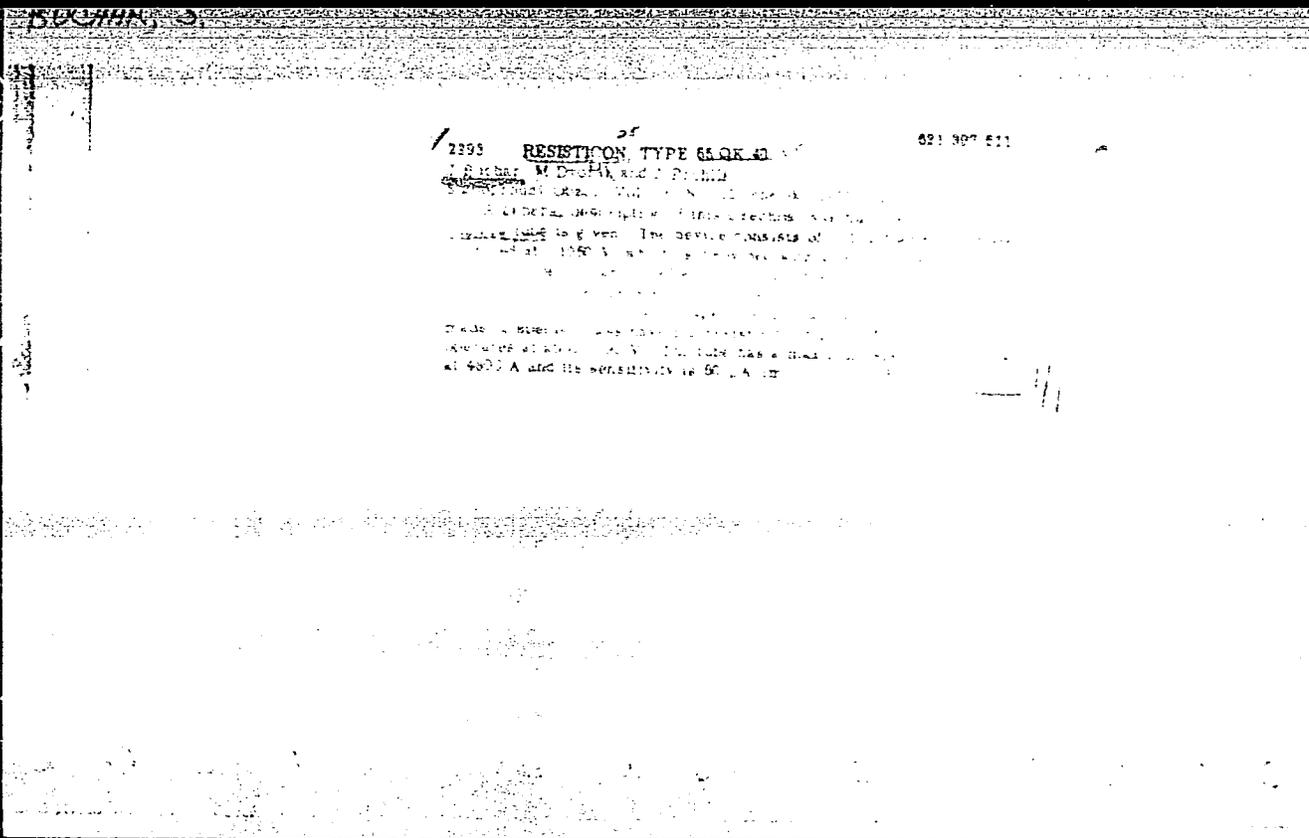
Fine mesh for camera tubes. p. 213.

Vol. 17, no. 4, Apr. 1956

RUDY

Praha, Czechoslovakia

Source: East European Accession List. Library of Congress  
Vol. 5, No. 8, August 1956



BUCHER, YC

"The Partial Lunar Eclipse Of August 5, 1952." p. 18.  
(Biulleten Astronomicheskikh Insitutov Chexhoslovakii.  
Bulletin Of The Astronomical Institutes Of Czechoslovakia.  
Vol. 4, No. 1, Feb. 1953, Praha.)

Vol. 3, No. 3.  
SO: Monthly List of East European Accessions,/Library of Congress, March 1954, Uncl.

BUCHER, Y.

"A New Impersonal Micrometer For The Circumpathical Instrument." p. 77  
(Bulleten Astronomického Institutu Československa. Bulletin Of The  
Astronomical Institute Of Czechoslovakia. Vol. 4, No. 4, July 1953, Praha.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, /Library of Congress, March 1954, Uncl.

BUCHAR, YE.

"Occultation of the Star ~~BD~~15<sup>04</sup>47 by Jupiter on October 9, 1952." p. 174.  
(Biulleten Astronomicheskikh Institutov Chekhoslovakii. Bulletin of the Astronomical  
Institutes of Czechoslovakia. Vol. 4, no. 6, Dec. 1953. Praha).

SO: Monthly List of ~~Russian~~ East European Accessions / Library of Congress, June <sup>4</sup>1953, Uncl.

BUCHAROV, Nikolay St.

Ekskurziya iz Atomiya Tsentur by Vasil Y. Khristov i Nikolay St. Bucharov. Sofiya, "Narodna Prosveta", 1963.

152 p. illus.

1. Bulgarska Akademiya na Naukite, Sofia Fizicheski Institut. 2. Bulgarska Akademiya na Naukite, Sofia. Atomna Nauchnoeksperimentalna Baza. 3. Nuclear reactors - Bulgaria. 4. Bulgaria - Nuclear reactors. 1. Title. 11. Bucharov, Nikol-

BULGARIA

TENEV, K.A.; SAEV, S.K. and BUCH AROV, T.R.; Department of Cardiovascular Surgery (Katedra po surdechno-sudova khirurgiya) Head Prof K. STOYANOV, of Institute for Graduate Medical Studies.

"Comparative Evaluation of Intravenous Routes of Administrations."

Sofia, Suvremenna Meditsina, Vol 14, No 6, 1963; pp 28-35.

Abstract [English summary modified]: Based on French studies by Aubaniac and Lataste and on authors' own necropsy and clinical data, a very strong case is made for the use of the subclavian vein for emergency administration of fluids and drugs in case of severe shock and apparent clinical death. Other routes including osseous are also briefly reviewed and discussed. Table, 3 diagrams, 4 EEGs-BP etc. kymograms; Two Czech, 2 Soviet and 3 Western ref's.

1/1

БРОВКОВ, Г.Н.; БУХАРСКАЯ, Г.С.

Facies-paleogeographic conditions governing the formation of  
Silurian formations in Tuva. Geol. i geofiz. no.4:66-77 '65.  
(MIRA 18:8)

1. Kraaboyarskaya kompleksnaya laboratoriya Sibirskogo  
otdeleniya AN SSSR.

ROMANOV, A.A. (Sverdlovsk); BUCHATSKAYA, M.M. (Sverdlovsk)

Evaluation of the energy of the interaction between oxygen and hydrogen dissolved in molten iron. Izv. AN SSSR. Met. no.3:11-17 My-Je '65. (MIRA 18:7)

BUCHATSKIY, I.I., kand.med.nauk

Dispensary treatment in Alma-Ata. Zdrav.Kazakh. 17 no.6:7-  
12 '57. (MIRA 12:6)

1. Glavnyy terapevt Gorzdravotdela.  
(ALMA-ATA--DISPENSARIES)

TKACHENKO, M.Ye.; RUGHATSKIY, M.A.; MIKHAYLOVA, N., redaktor; KHIGIROVICH, I.,  
tekhnicheskiy redaktor

[The cultivation of foxtail millet and its use for farming purposes]  
Kul'tura chumisy i ispol'zovanie ee dlia khoziaistvennykh tseloi.  
Alma-Ata, Kazakhskoe gos. izd-vo, 1950. 14 p. (MLRA 10:1)  
(Millet)

BUCHATSKIY, Ye.G.; YENIKEYEV, R.N.; BEZRUKOV, V.M.; KONSTANTINOV, G.V.;  
SHEVYREV, S.A.; MEDVEDEV, I.I.

Calculated seismicity of single-story framed industrial buildings.  
Prom. stroi. 41 no.6:35-37 Je '64. (MIRA 17:9)

BUCHATSKIY, Ye.G., inzh.; BUDANOV, V.I., inzh.; PARAMZIN, A.M., inzh.

Structural layouts of one-story industrial buildings for construction  
in regions with high seismicity. Prom. stroi. 40 [i.e. 41] no.4:  
24-29 Ap '63. (MIRA 16:3)

1. Kazakhskiy filial Akademii stroitel'stva i arkhitektury SSSR.  
(Earthquakes and building)  
(Industrial buildings--Design and construction)

BUCHBERG, M., ins.

Technique of pistol-spray lacquering. Pt.1. Kem ind 11 no.12:713-  
714 D '62.

BUCHBERGER, M., inz.

Technique of lacquer spraying. Pt. 2. Kem ind 12 no.5:350-351 My '63.

89403

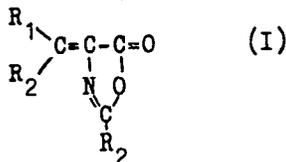
S/062/61/000/001/011/016  
B101/B220

5.3610

2209, 1375

AUTHORS: Ciorenescu, Caterina, ~~Buchen-Bărlădeanu, Ludmila~~  
[Abstracter's note: or Bărlădeanu], and Sternberg, RenéTITLE: Synthesis of  $\alpha$ -aminoketonesPERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
no. 1, 1961, 144-148

TEXT: The authors mention the use of  $\alpha$ -aminoketones as starting material for the synthesis of oxazoles which are used as scintillators. After mentioning the known methods of synthesis from  $\alpha$ -haloketones, oximino ketones, oxime aryl sulfonates, N,N-dichloro-sec-alkyl amines, and N-acylated amino acid chlorides, they describe a simple method for the synthesis of aromatic  $\alpha$ -aminoketones. Azlactones (derivatives of 5-oxazolone) were used as initial substances:

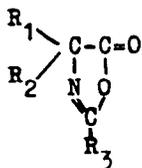


Card 1/4

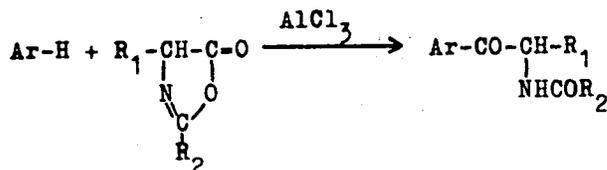
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Synthesis of  $\alpha$ -aminoketonesS/062/61/000/001/011/016  
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and



(II). Saturated (II) is more reactive than unsaturated (I). It can be obtained by treatment of  $\alpha$ -acyl amino acids or  $\alpha$ -amino acids with acetaldehyde. Azlactones react with aromatic hydrocarbons in the presence of electrophilic catalysts ( $AlCl_3$ ):



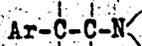
From this reaction the authors obtained  $\alpha$ -acyl aminoketones by treatment of the n-benzoyl derivatives of glycine, alanine,  $\alpha$ -aminobutyric acid, phenyl glycine, and phenyl alanine with acetaldehyde. If the low  $\alpha$ -amino acids are treated directly with acetaldehyde, it is difficult to separate the excess aldehyde from the azlactone. In the case of phenyl alanine, also  $\alpha$ -amino indanone was formed owing to a side reaction. In the case of  
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Synthesis of  $\alpha$ -aminoketones

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higher homologs, there occurs only this reaction which will be dealt with elsewhere. Results are summarized in a table. Since all  $\alpha$ -aryl aminoketones possess the group



which occurs also in adrenalin and ephedrine, the substances obtained will be studied as to their physiological effect. It is emphasized that the  $\alpha$ -aminoketones are valuable intermediate products for the synthesis of derivatives of pyrrole, imidazole, and oxazole. The investigation will be continued with higher aromatic hydrocarbons with a view to obtaining  $\alpha$ -acyl aminoketones with various aryl radicals, which can be produced by other methods only with difficulty and are able to serve as initial substances for the synthesis of bisubstituted oxazoles. There are 1 table and 16 references: 2 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: Institute of Chemistry, Academy of the Rumanian People's Republic

SUBMITTED: June 4, 1960

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Synthesis of  $\alpha$ -aminoketones

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1 Исходные реактивы		Ar	R <sub>1</sub>	R <sub>2</sub>	Т. пл. °C	Выход %	Лите- ратура
аромати- ческая ком- понента	3 аминокислота						
4 Бензол	5 Гиппуровая	C <sub>6</sub> H <sub>5</sub>	H	C <sub>6</sub> H <sub>5</sub>	123	81	[11]
	6 N-бензоилаланин	C <sub>6</sub> H <sub>5</sub>	CH <sub>3</sub>	C <sub>6</sub> H <sub>5</sub>	103	82	[13]
	7 N-бензоил- $\alpha$ -аминомасля- ная	C <sub>6</sub> H <sub>5</sub>	CH <sub>2</sub> CH <sub>3</sub>	C <sub>6</sub> H <sub>5</sub>	101	84	[14]
	8 N-ацетилфенилглицин	C <sub>6</sub> H <sub>5</sub>	C <sub>6</sub> H <sub>5</sub>	CH <sub>3</sub>	134	60	[15]
10 Анизол	9 N-бензоилфенилаланин	C <sub>6</sub> H <sub>5</sub>	C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub>	C <sub>6</sub> H <sub>5</sub>	144	28	
	5 Гиппуровая	(CH <sub>3</sub> O-C <sub>6</sub> H <sub>4</sub> )	H	C <sub>6</sub> H <sub>5</sub>	113	16	
11 Тoluол	6 N-бензоилаланин	(HO-C <sub>6</sub> H <sub>4</sub> )	H	C <sub>6</sub> H <sub>5</sub>	156	20	
	5 Гиппуровая	CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub>	CH <sub>3</sub>	C <sub>6</sub> H <sub>5</sub>	113	81	[16]

Legend to the table: 1) initial substances; 2) aromatic component;  
 3) amino acid; 4) benzene; 5) hippuric acid; 6) N-benzoyl alanine;  
 7) N-benzoyl- $\alpha$ -aminobutyric acid; 8) N-acetyl-phenyl glycine;  
 9) N-benzoyl-phenyl alanine; 10) anisole; 11) toluene; 12) melting  
 point; 13) yield; 14) reference.

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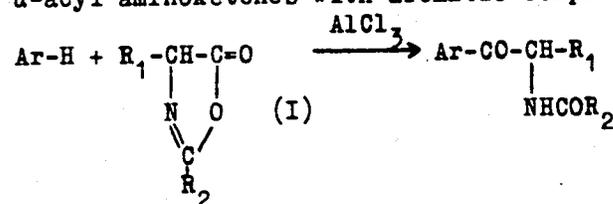
AUTHORS:

Ciorenescu, Caterina and ~~Buchen-Bârlădeanu~~, Ludmilla  
[Abstracter's note: or Birlădeanu]

TITLE:

Synthesis of cyclic  $\alpha$ -aminoketones

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
no. 1, 1961, 149-151TEXT: In Ref. 1, it has been shown that saturated azlactones (I) form  
 $\alpha$ -acyl aminoketones with aromatic compounds in the presence of  $AlCl_3$ :

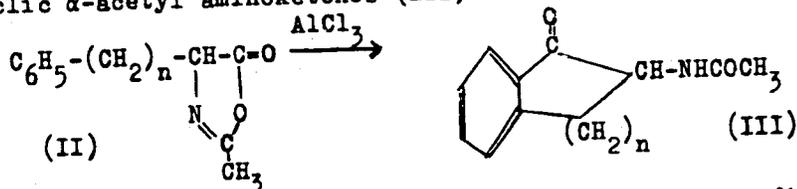
It was found that, due to internal condensation, azlactones of type II  
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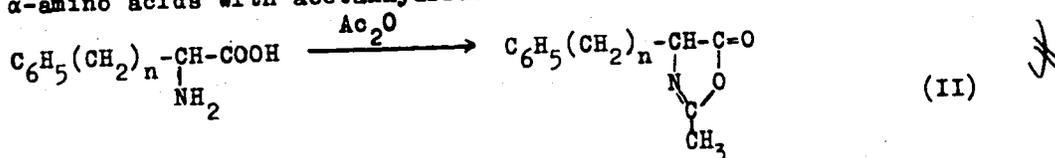
Synthesis of cyclic ...

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(n = 1,2,3) form cyclic  $\alpha$ -acetyl aminoketones (III) when treated with  $AlCl_3$  and  $CS_2$ .



Azlactones of this type are easily obtainable by treating the corresponding  $\alpha$ -amino acids with acetic anhydride:



In this way, the following compounds were synthesized: 2-acetyl amino-indanone; 2-acetyl aminotetralone-I; 4-acetyl aminobenzosuberone-3, whose synthesis had not yet been mentioned in the literature. The hydro-

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Synthesis of cyclic...

S/062/61/000/001/012/016  
B101/B220

chlorides of these  $\alpha$ -aminoketones were obtained by hydrolysis. Since the azlactones of this series can be easily synthesized, the authors recommend this method for the synthesis of cyclic  $\alpha$ -aminoketones. There are 9 references; 1 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Institute of Chemistry, Academy of the Rumanian People's Republic

SUBMITTED: June 4, 1960

Card 3/3

BUCHBORN, Eberhard

Recent findings on the endocrine regulation of water and electrolyte metabolism. Cas.lek.cesk. 99 no.26;823-828 24 Je '60.

1. Interni klinika university v Mnichove, prednosta prof. dr.  
H.Schwiegk.

(WATER ELECTROLYTE BALANCE)  
(VASOPRESSIN physiol)

BUCHEK, B. Ye.

P. 3

507/77-2-15/10

23(a) 23 (5)

AUTHOR: Lyalikov, K.S.

TITLE:

Successes of Soviet Electrophotography (Uspeshi sovetskoy elektrofotografii) A Scientific and Technical Conference on Questions of Electrophotography (Nauchno-tekhnicheskaya konferentsiya po voprosam elektrofografii)

PERIODICAL:

Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 149-152 (U.S.S.R)

ABSTRACT:

This is an account of a scientific and technical conference on electrophotography, the first to be held in the Soviet Union. It was organized in the USSR by the Soviet Union on December 16-19, 1958 by the Soviet National Academy of the Lithuanian SSR Council for Scientific and Technical Research, the Lithuanian SSR Ministry of National Economy of the Lithuanian SSR, the Lithuanian SSR State Scientific and Technical Committee of the Council of Ministers of the Lithuanian SSR and the Scientific Research Institute of Electrophotography. The conference, attended by over 400 scientific workers, was opened by the Deputy Chairman of the Council for National Economy of the Lithuanian SSR P. A. Kul'vets, after which the director of the Institute for Electrophotography, I. I. Zhilkevich, revised the state and prospects for development of electrophotography in the USSR. He stated that research in this field should be carried out along the following lines: a) dark resistance; b) physical research into the internal layers; d) development of photoconductive layers; e) development of the theory of the electrophotographic process. K. S. Lyalikov (speaking also for O. G. Popova) gave a report in which he described electrophotographic layers in GOST units. N. Z. Eshkin (speaking also for I. I. Zhilkevich, L. I. Kuznetsov, M. G. Kuznetsov, S. S. Kallauskas and O. M. Sviridov) reported on some research on the sensitization of photoconductor in electrophotographic layers. V. I. Prudnikov gave a report on highly sensitive electrophotographic layers and an electrophotopying device, and reviewed the formation process of the latent electrophotographic image on the basis of the contact theory. He also described the design of an enlargement meter for determining sensitivity by image and the circuit for a charge on the surface of the layer and the circuit of an electrophotographic copying device. Anfilov finished describing the state of the development of the latent mechanism and kinetics of the development of the latent electrophotographic image in liquid developers.

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SOV77-a-2-15/18

Successes of Soviet Electrophotography: A Scientific and Technical Conference on Questions of Electrophotography

K.M. Vinogradov described some of the features of the camera and liquid methods of electrophotographic development. Yu.Ye. Karpenko devoted his report to the criterion of light sensitivity of the electrophotographic process. After the reports, a discussion took place on methods of determining the light sensitivity of electrophotographic layers. A.N. Chernomirskiy spoke on the prospects of developing polygraph processes using electric and magnetic forces. V.V. Goryayeva, A.S. Puzina and I.I. Zhilovich, A.S. Borlapov reported on the development of electrically reproducing equipment. A.S. Borlapov, M.B. Gal'vidiks and M. Raikauskas reported on the use of electrophotographic methods in recording on ocellographs and other recording instruments. V.F. Yurchenko (speaking also for L.M. Ballin) spoke on the possibility of electrophotographically recording images from electron-beam tubes. L.S. Korol (speaking also for M.M. Markevich, T.I. Kozlovskaya, B.I. and K.M. Montjans) gave a detailed description of laboratory and machine methods of producing electrophotographic papers (zinc oxide was used). M.M. Goryayeva also for I.I. Zhilovich, O.V. Goryayeva, V.A. Goryayev, K.V. Fedotov and I.M. Voz' described a laboratory and industrial machine (speaking also for A.A. Chikina) reports on a method of examining electrophotographic papers using an x/c bridge. S.I. Khotimovich (speaking also for A.I. Gikels and I.S. Shlezems) spoke on developing materials for electrophotography and ferrimagnetography, including developers giving a "reverse" image. B.I. Kichonov reviewed methods of measuring the electrostatic potentials of electrophotographic layers, stressing that the optical activity potential should not be placed above a layer of dry electrophotographic paper. S. Knyazev spoke on the production of reducing velocities also for A.S. Borlapov, O.V. Goryayeva and V.V. Goryayeva. S. Knyazev also for A.S. Borlapov, O.V. Goryayeva and V.V. Goryayeva spoke on the electrostatic field and showed sixteen papers read by the Zhitomirskaya paper factory. V.I. Kharin, V.I. Kharin and V.I. Kharin gave a historical review of the development of electrophotographic methods in which he paid tribute to the work of the Scientific Research Institute of Electrophotography in Vil'nyus and the Institute of Polymer Chemistry and Physics (Academy of Sciences) of the Lithuanian SSR. V.I. Kharin also for V.I. Kharin and V.I. Kharin spoke on the development of electrophotographic machines (speaking also for V.I. Kharin and V.I. Kharin) at the Institute of Polymer Chemistry and Physics (Academy of Sciences) of the Lithuanian SSR.

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on methods of measuring the potential of charged electro-  
 photoplastic layers the vibration pick-up most-used  
 accurate in B.Y. Tikhonov's report to be not always  
 accurate. S.G.Grenzhain stated that the bad influence  
 of the oscillating electrode can be eliminated if the  
 electrode probe above its surface is fixed and the pick-  
 up is connected to it by a shielded cable. In the  
 research of Academician A.M. Kuznetsov and Ye.K.  
 Putnyko should be considered as the basis of all work  
 on electrophotographic papers. In 1960 as they were  
 the first to show the possibility of optical sensitiza-  
 tion of the internal photoeffect in ZnO. M.M.Gol-  
 vidis then gave a report on the depositing of charges  
 by a corona discharge. A.I. Kuznitskas and A.F.  
 Fedul's reviewed some of the results of the use of  
 electrographic methods in radiography. L.I. Myun'ko  
 (speaking also for V.I. Zhilevich, I.Z. Plavin, Yu.K.  
 Vashchans and Ye.A. Zibuts) reported on relaxation pro-  
 cesses in dielectric layers, using a vibration electro-  
 meter. Ye.V. Vishnaks gave a report on research on some  
 physical properties of the polycrystalline layers of  
 selenium cadmate. N.P. Mikhalovichyus spoke on the  
 of the photoelectric properties of Se2S3 and SeS2. The  
 absorption maximum of the latter is about 700 nm. Ye.  
 S.M. Karpan reported on methods of obtaining and ther-  
 mal treatment; it was also found that the sensitivity  
 of the layers increases with temperature for 1.5 to 2 months  
 at room temperature. P.M. Podvialkin (speaking also  
 for S.G.Grenzhain) spoke on research into the elec-  
 trical properties of electrophotographic layers of  
 amorphous selenium and powdered zinc oxide. N.K.  
 Shikgorov speaking also for A.S. Tsuraytis) discussed  
 the production of selenium layers and some of their  
 properties. Finally the following reports on ferro-  
 graphy were delivered: 1) B.Ye. Kaznacheyev,  
 Ye. Zhigina - Electrodeposition of Magneto-hard Alloys  
 with Given Magnetic Characteristics 2) M.M. Artyunov,  
 Visualization of Magnetic Oscillations by the Ferro-  
 graphic Method 3) V.S. Patrunkov, Ferrographic Recording  
 of Facsimile Images 4) I.I. Zhilevich, I.I. Gikha, B.  
 Ye. Buchet, I.I. Kuznitskas, A.K. Kuznetsov, V.I. Zhilevich,  
 in non-ferrous ferromagnetic ink of the Electro-  
 graphic Institute. The most important conclusion of  
 the conference was that the most important approach had been made  
 to the possibility of wide technical use of the methods  
 of electrography. It was considered that although work  
 in the field actually started only in 1955-56 it has covered as much ground  
 in the USA in 10 years. While admitting that it was  
 still to reproduce results already achieved there, it  
 was the first to arrive at them, the conference observed  
 that the Americans took good care that no important  
 information appeared in the literature available.

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KOSTIN, L.G., inzh.; ZABRODSKIY, D.A., inzh.; ZORIN, S.V., inzh.; BUCHEK,  
L.T., inzh. SANZHAREVSKIY, O.G., inzh.

Rolling of fastening parts. Mashinostroenie no.6:67-68 N-D '64  
(MIRA 18:2)

BUHEL', N. YE.

F-4

USSR/Microbiology - Medical and Veterinary.

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26387

Author : Buchel', N. Ye.  
Inst : Leningrad Medical Institute of Sanitation and Hygiene,  
Laboratory of Hospital Imeni Botkin.

Title : Serodiagnosis of Salmonellosis by Monospecific Diagnos-  
ticum on the Basis of Materials from the Laboratory of  
the Hospital Imeni Botkin.

Orig Pub : Tr. Leningr. san.-gigien. med. in-ta, 1956, 30, 79-84

Abst : In growing various salmonella in a U-tube on 0.4% agar  
with serum containing the antibody of II non-specific  
H-phase, with the subsequent decomposition of the O-an-  
tigen by formaline, it is possible to obtain a mono-  
diagnosticum with the specific H-phase antigen. The  
use of type-specific monodiagnostica d, b, i, r, IX  
(O-monodiagnosticum) for the serodiagnosis of salmonel-  
loses allows the type-specific diagnosis of Breslau

USSR/Microbiology - Medical and Veterinary.

Abs Jour : Ref Zhur - Biologiya, No 7, 1957, 26387

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para-typhoid, V. Schottmuller para-typhoid, Heidelberg  
para-typhoid and D-salmonellosis. A positive reaction  
with c, d and b monodiagnostica and a negative one  
with IX monodiagnosticum indicate a Vidal inoculative  
reaction.

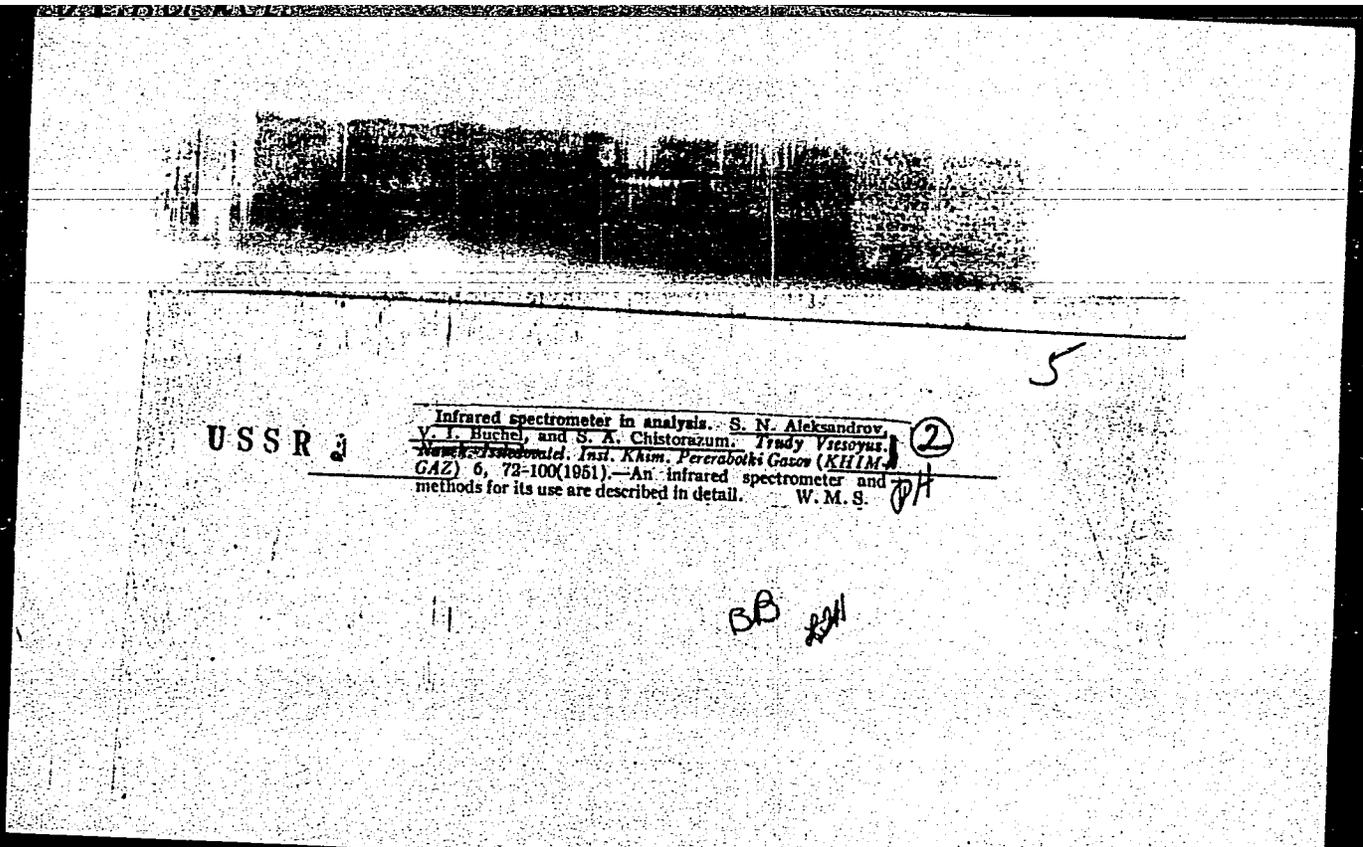
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BUHEL', N.Ye.

Widal's salmonella reaction according to materials of S.P.Botkin  
Hospital from 1957 to 1958. Trudy LSGMI 66:55-63 '62.

(MIRA 17:4)

1. Kafedra mikrobiologii Leningradskogo sanitarno-gigiyenicheskogo  
meditsinskogo instituta (zav. kafedroy - prof. M.N.Fisher) i  
laboratoriya Bol'nitsy imeni S.P.Botkina (glavnyy vrach bol'nitsy -  
zasluzhennyy vrach RSFSR M.M.Figurina, konsul'tant - prof. M.N.Fisher).



BUCHTEL, V. I.

USSR .

Laboratory rectifying. V. I. Buchtel, *Trudy Vsesoyuz. Nauch. Issledovatel. Inst. Khim. i Neft. Promyshlennosti Gazo* (KHI Af-GAZ) 6, 177-95(1951).—Theory of both intermittent and continuous distg. and rectifying processes are discussed, and it is concluded that the accuracy of mixt. sepn. depends not only upon the no. of theoretical plates (ideal stages) and reflux ratio, but also upon other factors (intermittence of the process, amt. of "liquid hold-up") which can be important in certain cases (particularly, when small amts. of initial mixts. are to be treated and when low conten. of a component therein exists).  
W. Farafonow

MA 241

DVININ, G.M.; MISHANSKIY, I.M.; DUBKOV, A.A.; MALAKHOVSKIY, G.F.;  
DRYAGIN, P.A.; BUHEL'NIKOV, D.V.

Working placer layers in a transverse ravine with the aid of  
explosives. Prom.energ. 15 no.2:20 P '60.

(MIRA 13:5)

(Mining engineering)

ARASHKEVICH, Vsevolod Markovich; TSIPEROVICH, M.V., kand.tekhn.nauk,  
retsensent; ZALAZINSKIY, G.G., inzh., retsensent; BUCHEL'NIKOV,  
S.M., kand.tekhn.nauk, red.; SKOROBOGACHEVA, A.P., red.isd-va;  
Ye.M., tekhn.red.

[Principles of ore dressing] Osnovy obogashchenia rud.  
Sverdlovsk, Gos.nauchno-tekhn.isd-vo lit-ry po chernoi i  
tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1959. 248 p.  
(MIRA 12:10)

(Ore dressing)

BUHEL'NIKOV, S.M.; KUDINOV, B.Z.; KISILEV, V.A.

Dressing of titanium-magnetites from the Kruchina deposit.  
Obog. rud 5 no.3:3-6 '60. (MIRA 14:8)

1. Institut metallurgii Ural'skogo filiala AN SSSR.  
(Kruchina region--Magnetite) (Ore dressing)

TYURENKOV, N.G.; BUHEL'NIKOV, S.M.; SUSLIKOV, G.F.

Industrial testing of Kachkanar deposit titanium-magnetite ores. Trudy Uralmekhanobra no.5:58-73 '59. (MIRA 15:1)

1. Ural'skiy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki poleznykh iskopayemykh (for Tyurenkov). 2. Ural'skiy filial Akademii nauk (for Buchel'nikov). 3. Zavod "Sibelektrostal'" (for Suslikov).

(Kachkanar Mountain--Iron ores)

BUHEL'NIKOV, S.M.; KUDINOV, B.Z.; KISELEV, V.A.

Dressing and metallurgical estimate of titanium-magnetite  
ores. Titan i ego splayvy no.5:38-49 '61. (MIRA 15:2)

(Ore dressing)

(Titanium--Metallurgy)

(Magnetite--Metallurgy)

BUCHEL'NIKOVA, N. M.

Nikolayeva, M. F. and Buchel'nikova, N. M. "Changes in the cytological picture of wound exudations under the influence of blood transfusions", Perelivaniye krovi, Collection 3, (Ivanovo), 1948, p. 129-39.

SO: U - 3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 7, 1949).

BUCHEL'NIKOVA, N.S., Cand Phys-Math Sci--(diss) "Effective cross sections  
of the capture of slow electrons with certain halide-containing molecules of  
O<sub>2</sub> and H<sub>2</sub>O." Mos, 1958. 9 pp (Acad Sci USSR. Inst of Chemical Physics),  
200 copies (KI, 31-58, 99)

- 4 -

AUTHOR: Buchel'nikova, N. S.

SOV/120-58-5-32/32

TITLE: Calibration of an Ionisation Manometer for Some Halogen-Containing Gases (Graduirovka ionizatsionnogo manometra po nekotorym galoidsoderzhashchim gazam)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, p 110 (USSR)

ABSTRACT: The VIP-1 vacuumeter was used under standard conditions in conjunction with the LM-2 valve (emission current 5 mA, grid voltage 200 V, collector voltage -25 V, all relative to the cathode). The calibration was carried out using a McLeod gauge. The difference of levels of mercury in the latter gauge was measured by a cathetometer, the accuracy being 0.01 mm. 15 to 20 measurements were carried out on each gas within the range  $10^{-3}$  to  $10^{-4}$  mm. It was verified that condensation and adsorption of the gases by the walls of the capillary of the manometer were absent. The conversion coefficient  $\chi$  which is equal to the ratio of the true pressure to the reading of the vacuumeter was determined. The

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SOV/120-58-5-32/32

Calibration of an Ionisation Manometer for Some Halogen-Containing Gases

conversion coefficient is given in the table (the accuracy is 6%):

Gas	Conversion Coefficient	Gas	Conversion Coefficient
Air	1	CCl <sub>4</sub>	0.70
Cl <sub>2</sub>	0.80	SF <sub>6</sub>	0.54
Br <sub>2</sub>	0.85	Freon	0.26
HCl	0.38	CF <sub>3</sub>	0.21

There is 1 table.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

SUBMITTED: November 21, 1957.

Card 2/2

SOV/120-58-6-18/32

AUTHOR: Buchel'nikova, N. S.

TITLE: Determination of Cross-Sections for Electron Capture by Molecules (Opredeleniye poperechnykh secheniy prilipaniy medlennykh elektronov k molekulam)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 6, pp 89-93 (USSR)

ABSTRACT: An improved method for measuring this cross-section is described. Quasi-monochromatization of electrons described by Fox et al (Ref.3) is used. This consists in passing the electron beam through a diaphragm which lets through only electrons with energy greater than its potential. Potential of the diaphragm is varied by  $\Delta V$  and the increase in the ion current corresponding to this change is measured. Negative ions are formed in an equipotential region, whose potential governs the electron energy and the ions are collected by a cylindrical collector. The apparatus is shown in Fig.1. The cathode 1 is in the form of a tungsten filament 0.12 mm in diameter and 30 cm long. In order to exclude the effect

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SOV/120-58-6-18/32

Determination of Cross-Sections for Electron Capture by Molecules

of the cathode drop upon the energy of the electrons, the cathode is heated by an AC current at a frequency of 400 c/s. The electrons are extracted when the heating current is zero. The extracting pulses are applied to the diaphragm 2 which is at a constant potential of approximately -30 V. The amplitude of the extracting pulses is approximately +30 V. The diameter of the diaphragm aperture is 2 cm so that the cross-sectional area of the electron beam is about  $3 \text{ cm}^2$ . The "porous" diaphragm 3 limits the divergence of the electron beam. The diaphragm is prepared from nickel tubes 1 mm dia each. The system of grids 4 and 5 is designed to give energy to the electrons and to separate out the monochromatic component. A negative potential is applied to grid 4 and is equal to the potential of the space-charge in the electron beam. This potential relative to the cathode is 1 to 1.5 V. This means that it is possible to obtain an electron beam with an exponential energy distribution whose width is about 1 eV and in which the space charge has practically no effect upon the energy of the electrons, the electron current being  $10^{-8} - 3 \times 10^{-8}$  A. Contact potentials of grids 5-8 are compensated to about 0.02 V. Grids 4-6 consist of cells 180  $\mu$  each and have a transparency of

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SOV/120-58-6-18/32

## Determination of Cross-Sections for Electron Capture by Molecules

40%. Fig.2 shows the energy distribution of the electrons. In this figure Curve I is the energy distribution and Curve II is the energy distribution in the monochromatized component. The ion collector 11 consists of 3 insulated cylinders attached to quartz insulators. The side cylinders are used to exclude end effects. The length of the middle cylinder is 4 cm. The electron collector 10 has a "cell" structure and is covered by aquadag. The cells are  $1.5 \text{ mm}^2$ . The ion and electron collector currents are measured by electrometer valves 13 and 14. The scattering of electrons on to the ion collector is prevented by a magnetic field. Since the divergence of the electron beam is  $2^\circ$ , scattering effects are removed by a field 10 to 15 oersted. Fig.3 shows the dependence of the current of scattered electrons on the intensity of the magnetic field. The curve cuts the field axis at 15 oersted. Measurements were carried out in a gas current at pressures of  $10^{-4}$  to  $10^{-7}$  mm Hg. Gas is let in through a needle valve, the pressure being measured by a calibrated ionisation manometer. The effect of the Earth's magnetic

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SOV/120-58-6-18/32

## Determination of Cross-Sections for Electron Capture by Molecules

field is removed by placing the apparatus within a permalloy screen. The cross-section was determined, using the following formula:

$$\sigma = \left( \frac{I_i}{\eta \xi} \right) \left/ \left( \frac{I_{el}}{\beta} 3.55 \times 10^{16} \times 273 \frac{P}{T} \lambda L \right) \right.$$

where  $I_i$  is the ion current,  $I_{el}$  is the electron current,  $P$  is the pressure of the gas under study,  $T$  is the temperature of the working region,  $L$  is the length of the working region,  $\eta$ ,  $\xi$ , and  $\beta$  are corrections for ion and electron losses, and  $\lambda$  is a correction for the averaging of electron paths at different angles. The apparatus has been used to measure electron capture cross-sections at energies of 0 to 3 eV by the molecules of HCl, HBr, SF<sub>6</sub>, CCl<sub>4</sub>, CCl<sub>2</sub>F<sub>2</sub>, CF<sub>3</sub>I, and also the cross-sections for the processes  $O_2 + e \rightarrow O + O^-$  and  $H_2O + e \rightarrow OH + H^-$ . Results Card 4/5 for SF<sub>6</sub> are shown in Figs. 5, 6 and 7. In particular, Fig. 7

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Determination of Cross-Sections for Electron Capture by Molecules

shows the dependence of the variation of electron capture by  $SF_6$  on the energy of electrons. The continuous line is calculated from the ion collector current and the dotted line shows the cross-section calculated from the ion collector current without taking into account the scattered electrons. The following persons are thanked for advice and assistance: V.L. Tal'roze, L.L. Dekabrun, S.P. Kuklin and L.N. Lapina. There are 7 figures, 1 table and 4 English references.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, Academy of Sciences, USSR)

SUBMITTED: December 19, 1957.

Card 5/5

56-2-41/51

AUTHOR: Buchel'nikova, N. S.TITLE: The **Adherence** of Slow Electrons to the Molecules of SF<sub>6</sub> and CCl<sub>4</sub> (Prilipaniye medlennykh elektronov k molekulam SF<sub>6</sub> i CCl<sub>4</sub>)<sup>4</sup>

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol. 34, Nr 2, pp. 519 - 521 (USSR)

ABSTRACT: The author determined the energy and the cross section of the resonance capture of slow electrons on SF<sub>6</sub> and CCl<sub>4</sub>. The measurements were carried out by means of an apparatus of the Lozier type (reference 5). A beam of electrons was collimated by a disk-diaphragm and by a magnetic field (15 - 20 Oersted) and passed through a diaphragm with variable potential as well as through a screening grid into an equipotential range and then onto a collector. The ions formed within the equipotential range were collected on a cylindrical collector screened off by a grid. Further details of the apparatus are given. By this way electrons with an exponential distribution with respect to the energy could be obtained. The width was

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56-2-41/51

The Adherence of Slow Electrons to the Molecules of SF<sub>6</sub> and CCl<sub>4</sub>

0,2 to 0,3 eV. When the capturing takes place within an energy interval which in relation to the distribution of electrons is narrow, the ion peak has the same shape as the distribution, and the displacement of the maximum of the ion flow taken relatively to the maximum of distribution determines the energy of capture. Two diagrams show the distribution of the electrons as well as the curves of the ion flow for SF<sub>6</sub> and CCl<sub>4</sub>. The coincidence of the ion peak and the distribution of the electrons within the range of the maxima speaks in favor of the fact that in SF<sub>6</sub> and CCl<sub>4</sub> a resonance capture of the electrons takes place within a narrow energy interval. In SF<sub>6</sub> the capture takes place at an energy of  $0 \pm 0,01$  eV and in CCl<sub>4</sub> of  $0,02 \pm 0,01$  eV. Also the cross section of the resonance capture of SF<sub>6</sub> and CCl<sub>4</sub> was determined; this was done on the condition that the capture takes place within the energy interval of 0,05 eV. The cross section was determined from the maximum ion flow and the electron flow within the interval  $0 - 0,05$  eV. A formula is given for the calculation of the cross section. The value  $\sigma = (1,2 \pm 0,4) \cdot 10^{-15}$  cm<sup>2</sup> is found

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56-2-41/51

The Adherence: of Slow Electrons to the Molecules of SF<sub>6</sub> and CCl<sub>4</sub>

for SF<sub>6</sub> and the value  $\sigma = (1,7 \pm 0,4) \cdot 10^{-16}$  cm<sup>2</sup> for CCl<sub>4</sub>;  
in both cases these are the mean values of 6 measurements.<sup>4</sup>  
There are 2 figures, and 6 references, 0 of which are Slavic.

ASSOCIATION: Institute for Chemical Physics ~~of~~ USSR  
(Institut khimicheskoy fiziki Akademii nauk SSSR)

SUBMITTED: November 21, 1957

AVAILABLE: Library of Congress

1. Electrons-Adherence
2. Electrons-Capturing
3. Electrons-Scattering
4. Electrons-Cross section-Determination

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24(5)

SOV/56-35-5-9/56

AUTHOR:

Buchel'nikova, N. S.

TITLE:

The Effective Capture Cross Sections of Slow Electrons of Some Halogen-Containing Molecules O<sub>2</sub> and H<sub>2</sub>O (Effektivnyye poperechnyye secheniya zakhvata medleñnykh elektronov nekotorymi galoidsoderzhashchini molekulami, O<sub>2</sub> i H<sub>2</sub>O)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 5, pp 1119-1130 (USSR)

ABSTRACT:

In the present paper the author deals with measurements of the effective capture cross sections of slow electrons by SF<sub>6</sub>, CCl<sub>4</sub>, CF<sub>3</sub>J, CCl<sub>2</sub>F<sub>2</sub>, BCl<sub>3</sub>, HCl and HBr, as well as with the capture cross sections for electrons of several eV by O<sub>2</sub> and H<sub>2</sub>O molecules carried out by the method of single collisions and using quasimonochromatized electrons. The method is described in detail (cf. also reference 1). The breadth of electron energy distribution is given with an energy scale accuracy of 0.01 - 0.02 eV as amounting to 0.2 - 0.3 eV. The energy at which the capture takes place is determined from the extent to which the maximum of the ion flux is shifted with respect to the maximum of the elec-

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SOV/56-35-5-9/56

The Effective Capture Cross Sections of Slow Electrons of Some Halogen-Containing Molecules  $O_2$  and  $H_2O$

tron energy distribution curve.

Results obtained by these measurements:

Molecule	shifting of maximum [eV]	cross section (1. maximum) [cm <sup>2</sup> ]	electron energy in 1. maximum	Fig
SF <sub>6</sub>	0.00±0.01	5.7.10 <sup>-16</sup>	0.00	4,(1)
CCl <sub>4</sub>	0.02±0.01	1.3.10 <sup>-16</sup>	0.02	5,(2)
CF <sub>3</sub> J	0.05±0.01	7.8.10 <sup>-17</sup>	0.05	6,(3)
CCl <sub>2</sub> F <sub>2</sub>	0.07±0.01	5.4.10 <sup>-17</sup>	0.15	8,(7)
BCl <sub>3</sub>	0.23±0.01	2.8.10 <sup>-17</sup>	0.4	10,(9)
HBr	0.46±0.02	5.8.10 <sup>-17</sup>	0.5	14,(12)
HCl	0.46±0.02	3.9.10 <sup>-18</sup>	0.6	13,(11)
H <sub>2</sub> O		(4.8±1.5).10 <sup>-18</sup>	6.4	18,(16)
O <sub>2</sub>		(1.3±0.2).10 <sup>-18</sup>	6.2	17,(15)

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SOV/56-35-5-9/56

The Effective Capture Cross Sections of Slow Electrons of Some Halogen-Containing Molecules  $O_2$  and  $H_2O$

In conclusion, the author thanks V. L. Tal'roze for his interest in this work and for his valuable advice. There are 18 figures, 1 table, and 36 references, 3 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR  
(Institute for Chemical Physics of the Academy of Sciences, USSR)

SUBMITTED: May 22, 1958 (initially) and July 21, 1958 (after revision)

Card 3/3

**AUTHOR:** Buchel'nikova, N. S. SOV/53-65-3-1/11

**TITLE:** Negative Ions (Otritsatel'nyye iony)

**PERIODICAL:** Uspekhi fizicheskikh nauk, 1958, Vol. 65, Nr 3, pp. 351-385 (USSR)

**ABSTRACT:** In the present paper the authoress gives an extensive survey of the present stage of the investigation of the properties of negative ions. The paper consists of three chapters.  
1.) The electron affinity S has been compiled in 4 tables for a large number of atoms, molecules and radicals; these tables not only contain the S-values in kcal/mol and eV, but for each individual value also the number of the reference from which this value has been derived as well as the method according to which this value has been determined, is given. This fact makes such tables very valuable for practical work. The methods of determination are: Comparison of various data, quantum-mechanical computation, attachment of electrons, mass spectroscopy, extrapolation, calculation from the lattice energy or from the hydration heat, kinetics of electron processes, equilibrium in flames, calculation by means of the method of the self-consistent molecular orbits, calculation according to electro-negativity, photo-detachment and,

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Negative Ions

SOV/53-65-3-1/11

finally, the method of surface ionization.

2.) The production of negative ions: Here the following possibilities are discussed: Radiation capture, capture at a threefold collision, capture with dislocations, capture with dislocations and forming of a negative and a positive ion, electron capture during the collision with atoms or molecules, capture of two electrons by a positive ion at the collision with atom or molecule, electron capture on the surface (surface ionization), capture of two electrons by a positive ion on the surface.

3.) This chapter deals with the detachment-cross section for slow neutrons according to the diffusion method, the microwave method, the method of the single collision, the photo-detachment, the detachment during collision with electrons, the method of the collision of negative ions with atoms or molecules of gases, and finally the interaction of negative ions with a surface. There are 27 figures, 12 tables, and 191 references, 50 of which are Soviet.

1. Ions--Properties
2. Ions--Analysis
3. Ions--Production
4. Neutron cross sections

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ACCESSION NR: AP4042455

S/0294/64/002/003/0309/0312

AUTHOR: Buchel'nikova, N. S.

TITLE: Equipment for alkaline plasma studies

SOURCE: Teplofizika vysochikh temperatur, v. 2, no. 3, 1964, 309-312

TOPIC TAGS: alkaline plasma, potassium ion, tungsten plate, oil diffusion pump, magnetic field, field inhomogeneity, Langmuir probe, ionization degree, universal instability

ABSTRACT: An alkaline plasma device was described which was capable of operating at low temperatures with cesium or potassium ions contact-ionized over a 5 cm<sup>2</sup> tungsten plate at 2000K. A 10<sup>-8</sup> - 10<sup>-9</sup> mm vacuum was obtained, using N-55 oil diffusion pumps. A 1600-oersted magnetic field was used for longitudinal confinement of the plasma. At 36 cm plate separation, the axial field inhomogeneity was 3% and the azimuthal inhomogeneity less than 0.1%. Field stability was ~ 0.1%. A set of four double-Langmuir probes was used to determine the plasma density. For densities  $n \sim 10^{10}$  to  $10^{11}$  cm<sup>-3</sup>, the degree of ionization was 20-40%. A 5-30 kc frequency source was used to generate universal instabilities in the

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ACCESSION NR: AP4042455

plasma. These were then observed by a coaxial and a mobile probe. "The author expresses her thanks to V. G. Filonanko and V. N. Zaytsev for building the equipment, to E. M. Smokotin for experimental measurements, and to V. V. Panin and G. A. Novosel'tsev for help in the vacuum techniques." Orig. art. has: 4 figures.

ASSOCIATION: Institut yadernoy fiziki, Sibirskogo otdeleniya AN SSSR (Institute of Nuclear Physics, Siberian Branch, AN SSSR)

SUBMITTED: 28Jan64

ENCL: 00

SUB CODE: GP

NO REF SOV: 002

OTHER: 002

Card 2/2

ACCESSION NR: AP4025952

S/0056/64/046/003/1147/1148

AUTHOR: Buchel'nikova, N. S.

TITLE: 'Universal' instability in a potassium plasma

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 46,  
no. 3, 1964, 1147-1148

TOPIC TAGS: potassium plasma, plasma instability, universal instability, plasma, plasma thermal ionization, plasma density, plasma oscillation, plasma oscillation phase shift, inhomogeneous plasma instability

ABSTRACT: Experiments were carried out in a device in which a plasma is produced by thermal ionization of potassium vapor on a tungsten plate heated to 2,000°K. In this device the plasma forms a cylinder bounded at the ends by hot plates and a magnetic field is produced along the cylinder axis. The plasma density has a maximum at

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ACCESSION NR: AP4025952

the center and falls off radially to approximately zero at a value of the radius equal to the radius of the plate (2 cm). The measurements were made at plasma densities ranging from  $1 \times 10^8$  to  $5 \times 10^{11}$   $\text{cm}^{-3}$  and magnetic fields from 600 to 1600 oersted. Oscillations were observed at frequencies 5--9, 15--18, and 20--28 kcs. These oscillations were similar to those observed by d'Angelo and Motley (Physics Fluids v. 6, 422, 1963). The dependence of the oscillation frequency in a magnetic field was investigated and it was found that the frequency varies as  $1/H$  for the first three harmonics. Phase shift measurements indicate that what is observed is an azimuthal traveling wave with wavelength equal to  $a$ ,  $a/2$ , and  $a/3$  respectively for the three harmonics ( $a = 2\pi R$  is the periphery). All the results of the experiment are in agreement with the theory, and the observed instability can be identified with the "universal" instability of an inhomogeneous plasma in a magnetic field. "I am grateful to S. S. Moiseyev and R. Z. Sagdeyev for a discussion of the results, E. M. Smokotin for help with the experiments, V. G.

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**ACCESSION NR:** AP4025952

Filonenko and V. N. Zaytsev for the design of the apparatus, and  
V. V. Panin and G. A. Novosel'tsev for operation of the device."  
Orig. art. has: 1 formula.

**ASSOCIATION:** None

**SUBMITTED:** 30Dec63

**DATE ACQ:** 16Apr64

**ENCL:** 00

**SUB CODE:** PH

**NR REF SOV:** 006

**OTHER:** 001

Card 3/3

L 27601-65 ENT(1)/EPA(s)-2/EWT(m)/EWP(v)/EPA(w)-2/EEC(t)/T/EWP(t)/EWP(k)/EWP(b)/  
EWA(m)-2 Pz-6/Po-4/Pab-10/Pf-4/Pt-10/Pi-4 LJP(c) JD/HM/JG/AT

ACCESSION NR: AP5003239

S/0057/65/038/001/0072/0083

AUTHOR: Buchel'nikova, N.S. / Kudryavtsev, A.M. / Salimov, R.A.

81.  
65  
B

TITLE: Instability and anomalous diffusion in a potassium plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v.36, no.1, 1965, 72-83

TOPIC TAGS: plasma instability, plasma diffusion, plasma diffusion anomaly, plasma ion oscillation, potassium

ABSTRACT: In order to investigate the instability of a nonuniform plasma in a magnetic field when the ion Larmor radius is comparable with the dimensions of the plasma, the electromagnetic oscillations and diffusion of a potassium plasma column were measured. The plasma was formed in a 4 cm diameter, 50 cm long cylindrical chamber by surface ionization of K atoms on a 2 cm diameter hot tungsten spiral. A longitudinal magnetic field up to 1200 Oe was applied and plasmas of density from  $10^7$  to  $5 \times 10^{11} \text{ cm}^{-3}$  were investigated. The plasma column was most dense on the axis of the chamber, and the radius of the column at half-maximum density was ordinarily about 6 mm. Electromagnetic oscillations were observed with a fundamental frequency between 60 and 70 Kc/sec and an intensity exceeding the noise level by a

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ACCESSION NR: AP5003239

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factor 100. The second and third harmonics of these oscillations were also observed with somewhat lower intensity. The wavelength was determined by measuring the phase shift between the signals received by two movable probes. The wavelength of the fundamental in the azimuthal direction was found to be equal to the circumference of the plasma column; the wavelength in the longitudinal direction was approximately 20 cm. The frequency and wavelength of these oscillations were independent of the magnetic field strength, but the oscillations disappeared when the magnetic field was increased to such an extent that the ion Larmor radius became considerably smaller than the radius of the plasma column. The diffusion constant of the plasma transversely to the magnetic field was measured by the method of S.G. Alikhanov. The diffusion constant was found to be of the order of  $5 \times 10^4$  cm<sup>2</sup>/sec; it decreased slowly with increasing magnetic field and plasma density. The experimental data are discussed at some length, and by a process of elimination it is concluded that the observed oscillations represent a new type of plasma instability associated with the large ion Larmor radius and that the anomalous diffusion (which is about an order of magnitude greater than can be accounted for by the classical processes), is due to this new instability. "We express our gratitude to S.S. Moiseyev and R.Z. Sagdeyev for discussing the results." Orig.art.has: 7 formulas, 13 figures and 2 tables.

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L 27601-65

ACCESSION NR: AP5003239

ASSOCIATION: none

SUBMITTED: 13Dec63

NR REF SOV: 010

ENCL: 00

OTHER: 008

0  
SUB CODE: ME, IC

Card 3/3

L 31517-66 EWT(1)/EWT(m)/ETC(f)/EWP(t)/ETI IJP(c) JD/WW/JG/AT

ACC NR:

AP6008824

SOURCE CODE: UR/0294/66/004/001/0027/0034

AUTHOR: Buchel 'nikova, N. S. (Novosibirsk); Salimov, R. A. (Novosibirsk)

72  
66  
8

ORG: None

TITLE: Excitation of ionic-acoustic waves in a potassium and cesium plasma

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 1, 1966, 27-34

TOPIC TAGS: sound wave, excited state, cesium plasma, potassium plasma, plasma oscillation

ABSTRACT: The authors investigate the excitation of ionic-acoustic waves in an almost isothermic potassium and cesium plasma ( $T_e \sim 3T_i$ ) during the passage of electric current through the plasma. The natural frequencies of a limited system are found for the case when the plasma drifts along its axis. It is shown that when current is passed through, the oscillations are of the ionic-acoustic type. In particular, it is found that for potassium their phase velocity, equal to  $(2.9 \pm 0.5) \cdot 10^6$  cm/sec, agrees with the theoretical value

$$\sqrt{(\gamma_e T_e + \gamma_i T_i) / M} = (2.4 \pm 0.1) \cdot 10^6$$

cm-sec and with the value obtained by the direct measurement during the excitation of ionic sound by an external signal equal to  $(3 \pm 0.4) \cdot 10^6$  cm/sec. The critical drift velocity ( $v_{dr}$ ) is

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UDC: 533.951.3

L 31517-66

ACC NR:

AP6008824

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found for electrons in an electric field; as the  $v_{dr}$  the following excitation of ionic-acoustic waves is observed:  $(1.1 \pm 0.2) \cdot 10^7$  cm/sec. It is shown that this quantity is in good agreement with the theoretical value  $v_{dr} = 1.3 \cdot 10^7$  cm/sec for the case  $T_e = 3T_i$ . The authors express their gratitude to V. I. Volosov and V. I. Karpman for discussing the results, and to V. F. Svin'in, Yu. I. Eydel'man, V. Ya. Ivanov, and G. N. Kondratenko for participation in the experiments and the calculations. Orig. art. has: 11 figures and 9 formulas.

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Cord . 2/2

CHIORENESKU, Yekaterina [Cioranescu, E.]; ~~BUHEN-BARLADYANU~~, Lyudmila  
[Buchen-Barladeanu, L.]; SHTERNBERG, Rene [Sternberg, R.]

Synthesis of  $\alpha$ -amino ketones. Izv. AN SSSR. Otd. khim. nauk  
no. 1:144-148 Ja '61. (MIRA 14:2)

1. Khimicheskiy institut Akademii Rumynskoy Narodnoy  
Respubliki.

(Ketones)

CHIGRENESKU, Yokaterina [Cioranescu, E.]; BUNHEN-BYRLEDYANU, Lyudmila  
[Buchen-Barladeanu, L.]

Synthesis of cyclic amino ketones. Izv. AN SSSR. Otd. khim. nauk  
no. 1:149-151 Ja '61. (MIRA 14:2)

1. Khimicheskiy institut Akademii Rumynskoy Narodnoy Respubliki.  
(Ketones)

BUCHENKOV, A. N.

Kibernetika i eye primeneniye. Rekomendatel'nyy obzor literatury.  
[Cybernetics and Its Application. Recommended Survey of Literature],  
State Library imeni V. I. Lenin, Moscow, 1956, 23 pages.

BUCHENKOV, ALEKSEY NIKOLAYEVICH

BUCHENKOV, Aleksey Nikolayevich; KAUFMAN, I.M., redaktor; KHOVANSKIY, I.P.,  
tehnicheskyy redaktor

[Ultrasonic waves in science and technology; survey of popular  
scientific literature] Ul'trazvuk v nauke i tekhnike; obzor nauchno-  
populiarnoi literatury. Moskva, Gos.biblioteka SSSR im. V.I.Lenina,  
1956. 10 p. (Novosti tekhnike, no.5) (MIRA 10:9)  
(Bibliography--Ultrasonic waves)

BUCHENKOV, Aleksy Nikolayevich; IVANOVA, L.M., redaktor; KHOVANSKIY, I.P.,  
tekhnicheskii redaktor

[Tagged atoms and their use in the national economy; a bibliography]  
Mechenye atomy i ikh primeneniye v narodnom khoziaistve; rekomendatel'-  
nyi obzor literatury. Moskva, Gos. biblioteka SSSR im. V.I.Lenina,  
1956. 12 p. (Novosti tekhniki, no.4) (MIRA 9:11)  
(Bibliography--Radioactive tracers)

~~BUCHENKOV, Aleksay Nikolayevich; IVANOVA, L.M., redaktor; KHOVANSKIY, I.P.,  
tekhnicheskii redaktor~~

[Innovations in the techniques of ferrous metallurgy; a bibliography]  
Novoe v tekhnike chernoi metallurgii; bibliograficheski obzor.  
Moskva, 1956. 14 p. (Novosti tekhniki, no.6) (MIRA 10:3)  
(Bibliography--Iron--Metallurgy)

PHASE I BOOK EXPLOITATION

SOV/1465

9(0)

Buchenkov, Aleksey Nikolayevich

Radioelektronika, yeye dostizheniya i perspektivy razvitiya; rekomendatel'nyy obzor literatury (Radio Electronics, Its Progress and Prospects of Development; Survey of Recommended Literature) Moscow, Tsentral'naya politekhnicheskaya biblioteka, 1956. 15 p. (Series: Moscow. Tsentral'naya politekhnicheskaya biblioteka. Novosti tekhniki, vyp. 1) 20,000 copies printed.

Sponsoring Agencies: Moscow. Publichnaya biblioteka, and Moscow. Tsentral'naya politekhnicheskaya biblioteka.

Ed.: L.M. Ivanova; Tech. Ed.: I. P. Khovanskiy.

PURPOSE: The booklet is addressed to workers, students of technical and secondary schools and to lecturers, teachers, librarians and other persons engaged in the propagation of scientific and technical knowledge.

COVERAGE: This booklet is the first of a series of surveys which will include the following subjects: "Radio Electronics, Its Progress and Prospects of Development";

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Radio Electronics (Cont.)

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"Semiconductors in Science and Engineering", "Achievements of Jet Engineering", "Tagged Atoms and Their Application in the National Economy", "Ultrasonics and Its Application in Science and Engineering", "New Developments in Metallurgy", and others. Along with literature recommended for familiarization with the subject, the surveys include more advanced works requiring a preparation on the secondary-school level. The present survey contains 24 titles of articles and monographs with annotations, all relating to radio electronics. There is no Table of Contents.

AVAILABLE: Library of Congress

Card 2/2

JP/gmp  
5-7-59

BUCHENKOV, Aleksey Nikolayevich; IVANOVA, L. M.,redaktor; KHOVANSKIY, I.P.  
tekhnicheskiiy redaktor

[Cybernetics and its uses; a bibliography] Kibernetika i ee  
primeneniye; rekomendatel'nyi obzor literatury. Moskva, Gos.  
biblioteka SSSR im. V.I. Lenina, 1956. 23 p. (Novosti tekhniki,  
no.7) (MLRA 10:5)

(Bibliography--Cybernetics)

~~BUCHENKOV, Aleksey Nikolaevich; PETROVA, L.G.~~, kandidat tekhnicheskikh nauk,  
nauchnyy redaktor; KHOVANSKIY, I.P., tekhnicheskiiy redaktor.

[Chemical industries in the national economy of the U.S.S.R.; a bibliography] Khimizatsiia narodnogo khoziaistva SSSR; rekomendatel'nyi ukazatel' literatury. Nauchnaia red. L.G.Petrovoi, Moskva, Gos.biblioteka SSSR im. V.I.Lenina, 1956. 57 p. (MIRA 10:5)  
(Bibliography--Chemical industries)

21(4)

PHASE I BOOK EXPLOITATION

SOV/2119

Buchenkov, Aleksey Nikolayevich

Atomnaya energetika v shestoy pyatiletke; rekomendatel'nyy obzor literatury: (Atomic Power Engineering in the Sixth Five-Year Plan; Review of Recommended Literature) Moscow, 1957. 18 p. (Series: Novosti tekhniki, vyp. 13) 17,000 copies printed.

Sponsoring Agency: Gosudarstvennaya ordena Lenina biblioteka SSSR and Tsentral'naya politekhnicheskaya biblioteka.

Ed.: L.M. Ivanova; Tech. Ed.: L.M. Khelemskaya

**PURPOSE:** This booklet is intended for the general reader interested in the nontechnical literature available on the uses of atomic energy.

**COVERAGE:** This issue of the series Novosti tekhniki lists 23 popular science type books available on the field of atomic power engineering and other peaceful uses of atomic energy. It is intended as a bibliographic guide for the layman.

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Atomic Power Engineering (Cont.)

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BUCHENKOV, Aleksey Nikolayevich; IVANOVA, L.M., red.; KHELEMSKAYA, L.M.,  
tekh.n.red.

[New sources of energy and prospects for their use; review of  
recommended literature] Novye istochniki energii i perspektivy  
ikh ispol'zovaniia; rekomendatel'nyi obsor literatury. Moskva,  
Gos.biblioteka SSSR im. V.I.Lenina, 1957. 21 p. (Novosti  
tekhniki, no.10). (MIRA 14:1)

(Bibliography--Power resources)

~~BUCHENKOV, A. Ya., redaktor;~~ IVANOVA, L.M., redaktor; CHERNYAK, A.Ya.,  
redaktor; KHELEMSKAYA, L.M., tekhnicheskiy redaktor

[Soviet metallurgy; on the 40th anniversary of the Great October  
Socialist Revolution. A bibliography] Metallurgiya SSSR; k  
40-letiu Velikoi Oktiabr'skoi sotsialisticheskoi revoliutsii.  
Rekomendatel'nyi ukazatel' literatury. Moskva, 1957. 39 p.  
(MLRA 10:10)

1. Moscow. Publichnaya biblioteka  
(Bibliography--Metallurgy)

BUCHENKOV, A.N.; IVANOVA, L.M., redaktor; KHELEMSKAYA, L.M., tekhnicheskii redaktor

[Electrification of the U.S.S.R.; on the 40th anniversary of the Great October Socialist Revolution. A bibliography] Elektrifikatsiia SSSR: k 40-letiiu Velikoi Oktiabr'skoi sotsialisticheskoi revoliutsii. Rekomendatel'nyi ukazatel' literatury. Moskva, 1957. (MIRA 10:10)  
61 p.

1. Moscow. Publichnaya biblioteka  
(Bibliography--Electrification)

MOLCHANOVA, Nina Sergeyevna; MINTS, V.M., inzh., nauchnyy red.; BUCHENKOV,  
A.N., kand.ped.nauk, red.; VASIL'YEVA, L.P., tekhn.red.

[Builder's manual; a bibliography) V pomoshch' stroitel'iu; reko-  
mendatel'nyi ukazatel' literatury. Moskva, 1959. 95 p. (MIRA 12:6)  
(Bibliography--Building)

L 11589-66 EWT(a)/EWP(t)/EWP(b)/EWA(h) JD  
ACC NR: ~~XP6000373~~ SOURCE CODE: UR/0286/65/000/021/0091/0091

AUTHORS: Shaposhnikov, A. P.; Zolotov, I. N.; Suvarova, V. S.; Borukhin, B. Ya.;  
Makarova, L. N.; Buchenkov, F. I.; Markov, F. F. 31

ORG: none

TITLE: Method for correcting the chemical composition of fused metallurgical slags.  
Class 80, No. 196197 16

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 91

TOPIC TAGS: slag, synthetic slag, metallurgical process, metallurgy

ABSTRACT: This Author Certificate presents a method for adjusting the chemical composition of fused metallurgical slags by introducing additives. To conserve time and energy and to obtain a homogeneous melt from the mixture of fused slag and additives, igneous rocks and industrial waste materials are used as additives. The latter are selected so that their fusion temperature is below the temperature of the fused slag. Gabbro, diabase, basalt, andesite, power plant ashes, and similar materials are used as additives. They are crushed and preheated up to their respective softening points prior to their introduction to the fused slag. The amount of additives is 50% by wt. of the total mass of the mixture.

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SUBM DATE: 19Jun62

UDC: 669.051.82:669.046.58

MASLENNIKOVA, G.N., kand.tekhn.nauk; BUCHENKOVA, A.F., inzh.

Alumina-base ceramic materials for making a grinding medium. Trudy  
GIEKI no.4:25-34 '60. (MIRA 15:1)  
(Ceramic metals) (Crushing machinery)

VORONKOV, G.N., kand.tekhn.nauk; MASLENNIKOVA, G.N., kand.tekhn.nauk;  
BUCHENKOVA, A.F., inzh.

Effect of the mineralogical composition of the body on the mechanical strength of high-voltage porcelain. Trudy GIEKI no.4:17-25  
'60. (MIRA 15:1)

(Ceramic materials--Analysis)  
(Electric insulators and insulation)

MASLENNIKOVA, G.N., kand. tekhn. nauk; KRASNOGOLOVYY, N.K., inzh.;  
BUCHENKOVA, A.F., inzh.

Study of the process of aging in high-voltage ceramic  
materials. Stek. 1 ker. 20 no.8:26-28 Ag '63. (MIRA 16:11)

1. Gosudarstvennyy issledovatel'skiy elektrokeramicheskiy  
institut.

KRASNOGOLOVYY, N.K., inzh.; MASLENNIKOVA, G.N., kand.tekhn.nauk;  
SAKHAROV, S.S., inzh.; BUCHENKOVA, A.F., inzh.

Suspension insulators for overhead power transmission lines.  
Elektrotehnika 34 no.9:73-75 S '63. (MIRA 16:11)

MASLENNIKOVA, G.N.; BUCHENKOVA, A.F.

High voltage ceramic materials with increased electromechanical  
properties. Zhur. prikl. khim. 36 no.8:1654-1659 Ag '63.  
(MIRA 16:11)

L 36224-65 EWP(e)/EPA(s)-2/EMI(m)/EPF(c)/EPF(n)-2/EWP(v)/EPR/EPA(w)-2/T/EWP(b)  
Pab-10/Pr-4/Ps-4/Pt-10/Pu-4 WW/VH

ACCESSION NR: AP5010289

UR/0286/64/000/014/0089/0090

51  
B

AUTHOR: Voronkov, G. B.; Buchenkova, A. F.; Magidovich, V. I.; Demidova, M. S.

TITLE: Ceramic paste. Class 80, No. 164228

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1964, 89-90

TOPIC TAGS: ceramic product, electric insulator

Translation: A ceramic paste based on a raw material with a high  $K_2O:Na_2O$  ratio and used mainly for making high-voltage insulators. In order to produce articles with a low electrical loss tangent value and a high volumetric resistivity, the paste contains 31-40% by weight of quartz-sericite shale as a fluxing component and source of aluminum oxide.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy elektrokeramicheskiy institut (State Scientific Research Electroceramic Institute)

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JPRS

*BUCHENKOVA, L.A.*

BUCHENKOVA, L.A.

Treating recurrent aphthous stomatitis with magnesium sulfate.  
Stomatologia 36 no.1:70 Ja-F '57. (MIRA 11:1)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. Ye.Ye. Platonov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N.Beletskiy)  
(MAGNESIUM SULPHATE--PHYSIOLOGICAL EFFECT)  
(TEETH--DISEASES)

~~BUCHERENKO, YE.F.~~

Possibility of synthesis of phosphorus-silicon hydrides starting from unsaturated phosphorus containing compounds and silicon hydrides.

Report submitted for the 12th Conference on high molecular weight compounds devoted to monomers, Baku, 3-7 April 62

BUCHERT, Adam, tanar (Pecs)

Fresh-water medusas. Term tud kozl 7 no.4:158-161 Ap '63.

BUCHERI, Adam

Alpina swift in Pecs. Aquila 69/70:252 162-163 [publ. 164].

~~БУЧЕВ, Ф.~~

Concern for the development of industry. Prom.koop. 13 no.5:32  
My '59. (MIRA 12:9)

1. Zamestitel' predsedatelya pravleniya oblpromsoveta (Moskva)  
(Lyubertsy--Cooperative societies)

DOROGOV, N.; KRUMAN, K.; BUCHEV, F., starshiy inzh. proizvodstvenno-  
tekhnicheskoy propagandy; SMIRNYAGIN, V., instruktor

Trade Union topics. Mest.prom.i khud.promys. 3 no.1:19 Ja  
'62. (MIRA 15:2)

1. Predsedatel' mestnogo komiteta kontory yuridicheskogo i  
mashinopisnogo obsluzhivaniya, g. Moskva (for Dorogov).
  2. Direktor kul'turnoy bazy Moskovskogo oblastnogo komiteta  
profsoyuza (for Kruman.
  3. Moldavskiy respublikanskiy  
komitet profsoyuza, g. Kishinev (for Smirnyagin).
- (Trade unions)

BRENNER, M.M.; BALASHOVA, T.V.; BUCHEVA, V.N.

Effectiveness of capital investments in the oil production  
industry. Trudy VNII no.26:159-167 '60. (MIRA 13:9)  
(Capital investments) (Petroleum industry)

VOLKOVA, G.A.; BALASHOVA, T.V.; BUCHEVA, V.N.; PLESHKO, A.M.

Economic efficiency of remote control methods in oil production.  
Trudy VNII no.22:136-149 '59. (MIRA 15:4)  
(Oil fields--Electronic equipment) (Remote control)

BUCHIN, A.N.; BUCHEVA, V.N.; GRACHEVA, V.P.; KAZAKOVA, V.Ie.

Economic problems the programming of the development of  
the Delina oil field. Trudy VNIJ no.39:95-107 '63.

(MIRA 17:10)